

preague), South Carolina (Charleston), Georgia, Florida (Sand Point), Louisiana (Cameron), Texas (Corpus Christi, Brownsville, Galveston), Jamaica (Kingston, Liguana Plain). Two specimens labeled *Kansas* are probably mislabeled.

***Erynephala glabra*, n. sp.**

In size, shape and coloring similar to *E. maritima*, but nearly glabrous on upper surface. Head reddish brown deepening to darker brown on occiput, coarsely and confluent punctate on upper half with a slight trace of fine pubescence. Tubercles not pronounced and depression below antennal base not marked. Antennae reddish brown and like the other species. Prothorax not twice as wide as long, narrowed anteriorly and with slightly arcuate sides; disc with trace of central and two lateral depressions, hind angles not as distinctly flattened as in *erosa* or *maritima*; punctation coarse and scattered, slightly more distinct than in *maritima*; only a slight trace of pubescence visible under high magnification; color deep reddish brown. Scutellum pubescent. Elytra with humeri no more developed than in *maritima* and *morosa*, densely and coarsely punctate, nearly glabrous excepting a slight trace of pubescence near lateral margin which disappears at apical angle; reddish brown with two darker vittae, one near suture, the other lateral, these broadening and coalescing at apex. Body beneath dark brown deepening to piceous on metasternum and first abdominal segments, lightly pubescent. Length 6.5 mm; width 3 mm.

Type: male in Bowditch collection, Museum of Comparative Zoology, Cambridge, Mass.

Type locality: Sierra de Durango, Mexico.

Remarks: This species from the mountains of western Mexico is very similar to the eastern maritime species. The only external differences between the two are the slightly deeper punctation and the nearly glabrous upper surface of the Mexican species. All the other species of the genus have distinctly pubescent elytra. The aedeagus, too, is different, having a tip similar to the eastern species, but being much wider behind the tip.

ENTOMOLOGY.—*Some new leafhoppers related to Thamnotettix*.¹

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The writer is working on the tree and shrub inhabiting division of the old genus *Thamnotettix* and has recently divided the group into a number of genera. As there are requests for determinations in some of these divisions the following species are described.

***Glorigonus spatulatus* Ball n. sp.**

Resembling *gloriosus*, smaller, golden with less green on the clavus. The female segment with a narrower and shorter notch. Length ♀ 5.5. mm.

Vertex shorter and more obtusely angled than in *gloriosus*, scarcely half longer on middle than against eye, female segment long, rounding posteriorly with a slightly wedge shaped notch reaching one third of the way to the black marked base. Male plates longer and roundly narrowing, almost oval instead of very broad and almost truncate as in *gloriosus*. The finger like tips curved up around the tips of the smaller and shorter styles.

¹ Received July 11, 1936.

Pygofers longer than the plates with their apices extending as white spatulate tips. These tips much exceeded by a pair of long black spines that lay alongside the anal tube. In *gloriosus* the pygofers are much shorter and blunter and do not equal the plates while the spines are short and curved.

Holotype² ♀ and three paratypes Riverside, California, June 10, 1908, allotype ♂ and five paratypes Ontario, California, June 12, 1908, all collected by the writer, and six paratypes Mint Canyon, California, June 7, 1935, taken by P. W. Oman and returned to him.

***Allygianus clathratus* Ball n. sp.**

The male resembling a small and slender *gutturosus*, the female a large golden *limbatus* Van D., both sexes heavily reticulate. Length ♀ 7 mm.; ♂ 5.5 mm.

Vertex resembling that in *limbatus*, only slightly more than a right angle, almost as long as its basal width instead of very obtuse and nearly twice wider than long as in *gutturosus*. Elytra very long, parallel margined, not appressed, venation even more heavily reticulate than in *gutturosus*, several cross nervures between the sectors and the central anteapical, constricted and several times divided. The female uniform pale cinnamon, almost golden, the male smoky brown with definite arcs on front and a broken crescent above. A pair of dashes anteriorly and a pair of dots on the median line of vertex, four spots on disc, a broken line on pronotum. The nervures in both sexes broadly white.

Holotype ♂ allotype ♀ and seven paratypes Pine Valley, July 6, 1931, and two Beaumont Aug. 1, 1912. All taken by the writer in southern California.

***Pasadenus chicanus* Ball n. sp.**

Resembling *pasadenus* Ball, bigger, broader, with widely flaring elytra and semi-circular male plates. Length ♀ 7 mm.

Vertex wider than in *pasadenus* but equally pointed and elytra longer, broader, with shorter apical cells. Color similar, the ivory saddle broader, the disc of the pronotum light brown with the anterior margin bearing an irregular row of black dots interrupted in the middle with yellow. Female segment with a quadrangular notch twice as wide as in depth, bordered by a black line while in *pasadenus* the notch only half as wide and is set off by a black area to the base. Male plates short, together semicircular with recurved finger like tips, pygofer hooks large turned down with the curved tips almost touching the plates. In *pasadenus* the male plates are twice as long, narrowing to almost truncate tips while the pygofer spines are long, slender, curved outward and upward, and extend well beyond the plates.

Holotype ♀ allotype ♂ Chico, California, Aug. 11, 1912, and one paratype male, Big Bar, California, July 24, 1912, all taken by the writer, 4 paratypes Redding, California, June 28, 1935, and eight Paynes Creek, California, June 27, 1935, all taken by P. W. Oman and returned to him.

***Pasadenus margaritae* Ball n. sp.**

Resembling *pasadenus* but much paler, the brown band reduced. Male plates long, spatulate. Length ♀ 5.5 mm.

Structure of *pasadenus* nearly, more reticulations on the posterior half of corium. Vertex and face creamy shading to straw color below. Pronotum pale brown, subhyaline, the anterior submargin with irregular brown dots

² Types in the author's collection unless otherwise indicated.

broken on the median line. Elytra with the ivory saddle of *pasadenus* very faintly margined with brown, a definite apical band. Female segment scarcely emarginate but with a broad black median stripe. Male plates long spatulate, three times the length of the valve, their apices turned up into chitinized hooks. Pygofer hooks just visible at the sides of the plates at about two thirds their length.

Holotype ♂ allotype ♀ and three male paratypes, Alpine, July 5, 1931, one female Pasadena, July 31, 1912, and one female Santa Margarita, August 6, 1921. All taken in California by the writer.

Doleranus atascasus Ball n. sp.

Resembling *perspicillatus* O. & B. but much longer and narrower. The head markings even more definite while the long elytra have only traces of the dark markings. Length ♀ 4 mm.

Vertex, pronotum and scutellum as in *perspicillatus* nearly with the dark markings in front and the brown ocellate spots very definite. Face longer and narrower with arcs on clypeus and dark lines around lorae. Elytra much longer and narrower, one half longer than abdomen, the antepical and apical cells long, the central antepical but little inflated posteriorly. The nervures on clavus milky, those on corium except the outer sector smoky widened on the cross nervures but with only faint markings in the cells. Female pygofers longer and narrower; the segment rounding and elevated posteriorly with a slightly bifid projection more than twice as long as in *perspicillatus*. The male plates with long narrow fingerlike projections stronger than in that species.

Holotype ♀ Atascasa Mts., Nov. 3, 1935, Allotype ♂ Santa Rita Mts., Apr. 5, 1931, and one female paratype Huachuca Mts., Oct. 13, 1931. All taken by the writer in the mountains of Arizona.

Doleranus kinonanus Ball n. sp.

Resembling *longulus* in form and color, shorter with a shorter head and rounding male plates. Pale cinnamon with smoky clouds behind the cross nervures. Length ♀ 4.5 mm.

Vertex obtusely conical, length less than two-thirds the width at base, shorter than in *longulus*. Pale cinnamon above and below, traces of brown arcs on the sides of the clypeus, faint indications of usual color pattern on dorsum and definite smoky clouds margining the cross nervures. Female segment but little over one half as long as in *longulus* with the posterior margin slightly angularly excavated with a definite slightly dark margined triangular projection. Male valve and plates apparently fused into a convex shield as broad as long, the tips of plates distinct and separated by a "V" shaped notch.

Holotype ♀ allotype ♂ and 16 paratypes taken by the author at Kino Bay, Sonora, Mexico, Dec. 9, 1931.

Ollarianus rubianus Ball n. sp.

Large, size of and superficial resemblance to *T. languidus* Ball, pale creamy with four black spots on vertex; elytra smoky inside of broad white, almost parallel, margins. Length ♀ 6 mm.

Vertex very short, much shorter than in *balli*, over two and one-half times wider than long, almost parallel margined, pale, with two large black spots above the ocelli and two smaller ones between, sometimes elongate; pronotum two and one-half times as long as the vertex, pale with indefinite sub-

marginal spots and obscure smoky stripes. Elytra, long flaring subhyaline, the nervures and apices smoky, the dark tergum and under wings showing through give the insect a smoky appearance with the broad flaring white costal margin in sharp contrast. Below creamy with a smoky crescent under the vertex and a few brown arcs well down on clypeus. Female segment twice as wide as long, posterior margin truncate with the angles rounding (arched so as to appear excavated), with a broad triangularly rounding median projection, male valve obtusely triangular, plates together long triangular three times the length of vale, the margins concave to the broad finger-like apices which almost equal the pygofers.

Holotype ♀ allotype ♂ and four paratypes Nov. 3, 1935, two paratypes Apr. 17, two May 15, and one May 23, 1936, all taken from the slopes of Mt. Atascasa, Arizona, by the writer.

Ollarianus bullatus Ball n. sp.

Size and form of *balli* nearly. Pale creamy, with the inner pair of spots on vertex the largest, instead of those above the ocelli as in that species, and the face of the male black. Length ♀ 4 mm.

Vertex about twice as long as wide, almost parallel margined, over two-thirds the length of the pronotum. Elytra as in *balli*, inclined to be flaring with similar venation. Female segment twice wider than long, parallel margined but elevated so as to appear slightly angularly excavated, a broad roundly triangular median projection. Male valve very broad and short, the plates together broad, roundly narrowing with long filamentous projections which are sometimes orange as in *strictus* Ball. Pale creamy with a slight smoky cast to the elytra, a pair of small spots above the ocelli, a large pair between these some distance back from the margin, a pair just behind the eyes, a pair on the disc of the scutellum and another pair on the margins before the apex. Any or all of these spots may be missing but the face of the male has a black or smoky cloud in all examples.

Holotype ♂ allotype ♀ and three paratypes Aug. 6, 1934, one Aug. 5, 1934, one June 8 and one June 23, 1929, all taken by the writer in the Baboquivari Mts., Arizona except the last two which were taken in the desert nearer Tucson, Arizona.

Ollarianus ollus Ball n. sp.

Form of *strictus* nearly, larger, longer and more slender than *bullatus*, with a short uniformly rounding vertex and faint markings, no black on face. Length ♀ 4.6 mm.

Vertex slightly narrower than in *bullatus* parallel margined with four fine points or none, no dark on face. Markings on pronotum and scutellum small or wanting. Elytra long and inclined to be flaring. Slightly smoky in the males with the cross nervures emphasized. Female segment more than half as long as its basal width, roundly narrowing, the posterior margin nearly truncate with the median third roundly produced. Male valve small triangular, plates broad, long spoon-shaped with the tips elongated equalling the pygofers, the concave portion of the margins before the tips heavily black marked.

Holotype ♂ allotype ♀ and 4 paratypes together with two nymphs taken by the writer from the east slope of the Santa Rita Mts., Arizona, Aug. 18, 1935.

Ollarianus rudiculus Ball n. sp.

Size and form of *ollus* nearly, the elytra long but not as inclined to be flaring. Pale smoky, heavily marked. Length of ♀ 5 mm.

Vertex short parallel margined, creamy with four black spots in a reversed crescent. Pronotum smoky or cinereus with a submarginal row of spots, the pair behind the eyes usually round and definite. Scutellum creamy with a smoky pattern, a pair of round black spots on disc and another pair before the apex, elytra smoky subhyaline, the nervures pale brown. Face and below pale, in dark examples a pair of dashes on the upper part of the clypeus, another pair at apex and irregular fine dots outline the arcs. The female segment, as in *ollus*, the male valve short and broad, triangularly narrowing and then produced into short, broad, divergent apices longer than the pygofers.

Holotype ♂ and allotype ♀ and one paratype taken in Bear Canyon (Labeled Tucson) March 22, 1931. Three paratypes Sabino Canyon, eight from Atascasa Mt. and two Nogales, all taken by the writer in the mountains of Arizona.